

Cognitive Science of Religion

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What Does Theology Have to Do With Religion?

Dual-process Accounts, Cognitive Science of Religion and a Curious Blind Spot in Contemporary Theorizing

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Abstract: In the cognitive science of religion (CSR), it is often claimed that religion is a product of information processing system that is nonconscious, automatic and irrational. This view rests on a theoretical basis provided by dual-process accounts (DPA) of reasoning. In this paper, I will provide some examples how DPAs are employed in contemporary theorizing in CSR and point out some problems, which reveal an oversight that may impede the progress of the scientific study of religion. The topic touches on the wider debate on evolutionary debunking arguments but my point concerns CSR theorizing and how it might not be able to understand religion properly.

Keywords: Cognitive science of religion, dual process accounts, debunking

Dual-Process Accounts: A Preliminary View

One of the basic theories in contemporary psychology is the dual-process theory (DPA) of reasoning or information processing. DPA has been discussed, analyzed, developed and criticized by several theorists in this field for some time now but its basic structure has remained more or less the same.¹ The aim of DPA is to give an account of basic human decision-making. The basic idea is that our decisions are, very roughly, the outcome of two information processing types, which are nowadays called Type 1 (T1) and Type 2 (T2) (because at first everyone coined their own titles for the systems).² T1 takes care of our basic cognitive tasks, including decision-making. It is fast, efficient and subconscious. Only a few decisions rely on T2, which is slow, energy consuming and conscious. For example, if the choice at hand is of minor importance, such as choosing between two different types of cinnamon rolls in cafeteria, we proceed with T1. However, if we are

¹ See e.g., Evans, “In two minds: dual-process accounts of reasoning”; “Dual-Processing Accounts of Reasoning”; Kahneman, *Thinking, Fast and Slow*; Stanovich, *Rationality and Reflective Mind*. For criticisms of DPA’s, see, e.g., Keren and Schul, “Two Is Not Always Better Than One”; Kruglanski and Gigerenzer, “Intuitive and deliberative judgements”. Some responses are offered in Evans and Stanovich, “Dual Process Theories of Higher Cognition”. It is not my task in this paper to evaluate the merits and demerits of the critiques and responses. However, if it turns out that DPAs lose their credibility for, let’s say a singular model or multi-process model, this just makes my case stronger: if cognition is just a product of one system or amalgam of multiple systems, much of theoretical basis for CSR will be in need of significant revision.

² Stanovich, *Rationality and Reflective Mind*, 18. Evans and Stanovich (“Dual Process Theories of Higher Cognition”, 224–227) state that they now use ‘Type’ instead of ‘System’. This differs from general practice that has been adopted by many. For example, Kahneman (*Thinking*) speaks of “systems” but this can have unwanted consequences if it leads people to think that there are exactly two systems of information processing or that they refer to clear-cut entities, which are located in specific neurological systems. Also Kahneman admits that when he is speaking about ‘Systems’, he is referring to fictional entities.

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faced with a mathematical puzzle or a difficult riddle, we need to slow down and rely on T2. Sometimes T1 and T2 are called intuition and reflection respectively, which adequately depicts what takes place in each mode.

In brief, the general features of each system are typically presented as follows. T1 operates automatically and frugally, it is not under our voluntary control, it tends to neglect ambiguity and doubts, it favors currently held beliefs over new ones, and it does not easily take new, conflicting evidence in consideration. T2 is, as stated, slow, voluntary, energy consuming, and it assesses arguments relying on the general rules of logic.³

However, DPA theorization has developed recently in ways that is important regarding its use in the cognitive science of religion (CSR). For example, Evans and Stanovich note several fallacies that appear regularly in the literature in their own field. These include “the beliefs that (a) Type 1 processes are always responsible for cognitive bias and Type 2 processing is always responsible for correct responses, (b) Type 1 processing is contextualized and Type 2 processing abstract, and (c) fast processing is necessarily indicative of Type 1 processing.” These fallacies lead easily one to think that T1 processes are “nonconscious, automatic, impulsive and associative” while T2 cognition is “conscious controlled, reflective and rule-based”.⁴ If the field of cognitive science is plagued by fallacies regarding the misuse of dual-process theories, can CSR fare any better?

The Use of Dual-Process Theory in CSR

DPA form a central background theory for CSR. Of course, I am not claiming that everyone employs it in exactly same manner. Instead, people rely to it in different ways but almost everyone in the field subscribes to it in some form or another. Let it be said that I do not claim that the use of DPAs in CSR is wrong or generally shoddy. I intend only to say that some ways it is used will lead to skewed results regarding religious belief formation.

I summarize the simple usage (which I think is problematic) thus: *Religious belief-formation is unconscious, not a reflective process, and therefore a product of T1*. I will be referring to this as *the received view*.⁵ Accordingly, religion is a matter of T1 cognition and T2 cognition (theology and philosophy) are *post hoc* rationalization of fundamentally irrational folk beliefs.

For example, let us consider the recent work by F. LeRon Shults, which offers an overview of the current literature and draws some practical and normative conclusions from it. In the following quote, Shults employs DPA to explain the nature of religious cognition.

My interest, however, is in the *primal abductions* about supernatural agents that have become deeply ingressed within a theist's interpretive scheme long before [this is T1] he or she gets around to dealing with abstract theological hypotheses about the best explanation for apparent design. [and this is T2]

It is precisely religious abductions of this sort—those that flow naturally from the evolved bias [T1] toward guessing that a hidden, person-like, coalition-favoring force is the cause of ambiguous phenomena—that scientific and philosophical training encourages one to challenge [T2].

Supernatural agent beliefs are not simply prior “assumptions” or “probabilities,” [T2] but biased hypotheses powerfully protected from critique by ongoing participation in the shared imaginative engagement of a particular religious coalition, wherein one is constantly pressured to send credible and costly signals of commitment to other in-group members [T1].

[...] why would anyone think that spiritual forces are real in the first place? CSR and related disciplines have provided a really good answer to this question: hypotheses about such spiritual forces are the result of abductive inferences covertly guided by implicit cognitive and coalitional biases [T1].⁶

³ For a brief overview of the features of T1 see Kahneman, *Thinking, Fast and Slow*, 105. For T2 reasoning, see Johnson-Laird, *How we reason*.

⁴ Evans and Stanovich, “Dual Process Theories of Higher Cognition”, 226–227.

⁵ Several examples are discussed in Oviedo, “Religious Cognition as a Dual-Process”, 42–51.

⁶ Shults, “Supernatural Agent Abductions and Theistic Bunk”. The bracketed text is mine. In a more detail see his *Theology After The Birth of God*.

Shults clearly supports the received view: religious beliefs are already there, as products of T1, long before T2 can have its say. Shults is not alone in making such claims.⁷ For example, Tod Tremlin argues in his *Minds and Gods* that T1 is the “controlling system” and that T2 functions are outperformed by T1. Religious cognition is thus captive of these basic representations provided by T1.⁸ In similar fashion, Thomas Lawson mentions dualism, essentialism and creationism as examples of intuitive (T1) reasoning, whereas it belongs to reflective reasoning (T2) to explain, “why we typically think and behave in the ways we do”.⁹ This might well often be the case but this juxtaposition overlooks the fact that it is possible, and also quite common, to offer reflective arguments for dualism, essentialism and even creationism – and claiming that they are just post hoc rationalization would be begging the question.¹⁰ That said, some of these arguments may be really bad but that is not because they are products of T1 and T2 but because they are unsound.

Let it be stated that many scholars do not use the received view to debunk religious truth claims. It is commonplace to state that this epistemic question does not interest CSR scholars.¹¹ Some, like Justin Barrett, use DPAs but they frame it differently. According to him, T1 processes lend support to reflective T2 beliefs, and reflective beliefs also have an effect to T1 processes. Moreover, developed religions are what they are because they are “scaffolded” by surrounding intellectual culture. Thus, they are products of both types of cognition. In my view, Barrett’s use of DPAs is in line with Evans and Stanovich’s concerns and offers a more holistic and reasonable way forward.¹²

But let us return to the received view. If religion is mostly a product of T1, what should we think about theology, which clearly is an output of T2? What CRS researchers call the *theological incorrectness effect* is symptomatic of how theology is related to religion in CSR. According to dual-process account, fast, sub-conscious and automatic T1 is the source of folk religion, which is contrasted with theology, a product of slow, conscious and reflective T2. We often observe a tension between our folk beliefs about the natural world and the scientific worldview. Similarly, CSR researchers claim, we observe discrepancies between our natural religious intuitions and more refined, theological views. Along these lines, Robert McCauley argues:

Ordinary participants in religious systems may dutifully learn and even memorize theologians’ radically counterintuitive formulations that their leaders codify and insist upon. My claim, however, is that those formulations will prove unstable in participants’ online religious thinking, including their understandings of their day-to-day religious activities. No matter how much effort religious authorities put into standardizing, inculcating, and regulating religious representations, participants will re-construe them, mostly unconsciously, in their online cognition in way that are theologically incorrect.¹³

What McCauley means is that folk religion and academic theology involve different ways of processing information. Theologians may, and will try to, systematize the belief structure of a religion but the members of religious communities will continue to express their beliefs in ways that are not necessarily in line with the official theology. Religious ideas tend to morph themselves according to natural biases provided by T1. Abstract theological theories are difficult to process by T1 so they tend to degrade towards less complex and often more anthropomorphic forms that are nevertheless easier to process and remember.

McCauley likens theology and religion to science and folk beliefs about natural world. As it is hard for me to accept that the table in front of me is mostly empty, consisting of floating atoms with nothing between them, it is hard for me to give up the anthropomorphic picture of God and embrace strict determinism entailed by some forms of Calvinism (if I were a Calvinist). Thus, McCauley’s point is that even if some

⁷ See, e.g., Slone, *Theological Incorrectness*, 47. Visala, *Naturalism*, 60–64. A slightly more refined version is presented in McCauley, *Why Religion is Natural*, 4–7.

⁸ See Tremlin, *Minds and Gods*, 180–182.

⁹ Lawson, “A New Look at the Science-and-Religion dialogue”, 562–563.

¹⁰ On dualism and essentialism, see, e.g., Feser, *Scholastic Metaphysics*, 160–263. For an extended analysis of arguments in the Intelligent Design movement, see Kojonen, *The Intelligent Design Debate*.

¹¹ E.g., Slone, *Theological Incorrectness*, 46: “This is not to say that the objects to which the representations refer do not exist (who knows?)”.

¹² Barrett, *Cognitive Science*, 138–145.

¹³ McCauley, *Why Religion is Natural*, 242.

religious ideas are products of T2, these ideas will not spread widely and concerns only religious elites or those who have enough time and go through the effort of using their T2.¹⁴

Where does this leave us? I will argue that the received view has a crucial weakness. So far CSR has concentrated almost solely on religion as a product of T1. This tends to distort the religious reality the theories are trying to depict and explain.¹⁵ Namely, it is obvious that religious believers engage in T2 information processing, and that the ideas of theologians are not systematically ignored or distorted as the theological incorrectness thesis suggest. This glaring problem in the received view is underlined by the fact that the number of studies that analyze religious T2 cognition is virtually zero. Already this should give us a pause.

Problems

In the following, I will examine the received view more closely. It seems to be a bundle of mutually-entailing presuppositions, which are not typically spelled out. That is to say, while the received view is stated more or less openly, the claims that are needed to support it are not, nor they are implicitly assumed. Nevertheless, in order to make the received view work, one would have to defend (at least) the following claims:

- a. Religious cognition is mostly T1 cognition.
- b. Religious T2 cognition is just *post hoc* rationalization.
- c. We can distinguish between religious and other forms of cognition.
- d. The methods of reasoning and epistemic justification are something else in religion compared to other areas of human knowledge acquisition.

Do we have good grounds to believe that a-d are true? I don't think so. Let's take a closer look at these claims. The first two claims form a pair.

- a. Religious cognition is mostly T1 cognition.
- b. Religious T2 cognition (theology) is just *post hoc* rationalization.

Admittedly, it is possible to argue for analogous view in several spheres of human life. For example, our ethical theories can be seen as *post hoc* attempts to consciously explain why we acted as we did.¹⁶ But how plausible is this view?

Even if it is often so that we react to ethical dilemmas in ways that we cannot consciously explain or that we are not always able to offer coherent account of our ethical beliefs, it does not follow that T2 cognition is just *post hoc* rationalization. Notably, the cases that, for example, psychologist Jonathan Haidt uses to support his ethical intuitionism are somewhat extreme (e.g., incest between consenting and adult siblings) and for this reason not very good examples of our ethical deliberation as a whole. One can imagine if we were to discuss simple and everyday rules, such as "do not cheat in exams", our reasons for ethical choices would be more coherent. Moreover, Cordelia Fine, among others, has argued that System 2 deliberation affects our intuitive decision making, for example, when we realize that we are making judgments about some groups of people based on racial stereotypes. It is natural (although not necessary) to modify our intuitions in these kinds of cases.¹⁷

Yet we could still claim that religion is a special case. In politics and ethics we can, and should, engage in T2 reasoning, because it can produce true beliefs but in religion T2 is futile. Why would this be so? Why should we think that religion is a special case?

One reason would be that religious belief formation produces so many false positives. How do we know that? We cannot say that the mere number of diverging religious views supports the conclusion

¹⁴ McCauley, *Why Religion is Natural*, 219. See also Slone, *Theological Incorrectness*, 64–67, 91–97

¹⁵ This is also pointed out by Oviedo, "Religious Cognition as a Dual-Process", 32.

¹⁶ E.g., Haidt, "Emotional Dog and Its Rational Tail", 814–834; Kurzban, *Why everyone (else) is a hypocrite*, 186–217.

¹⁷ Fine, "Is the Emotional Dog Wagging Its Rational Tail." Oviedo ("Religious Cognition as a Dual-Process", 49) also notes that secularization, at least to some extent, proves that religiosity is not as automatic as the received view suggests and that surrounding culture has a clear effect on the modes, or the lack, of religiosity.

that religious cognition as a whole is unreliable because exactly the same happens in ethics, politics and everyday cognition; all of these spheres share the same problem of plurality.¹⁸

A possible way forward for the defender of the received view is to find support for c and d, which also form a pair.

c. We can distinguish between religious and other forms of cognition.

d. The methods of reasoning and epistemic justification are something else in religion compared to other areas of human knowledge acquisition.

Can we distinguish religious cognition from other forms of cognition? This seems to be more difficult than it first appears. The processes that cause our religious beliefs are, for the most part, the same as those that cause our beliefs about ethics, politics and the everyday world. In the debates about the debunking arguments, it has been regularly stated that debunking arguments that rely on DPA and CSR are “universal acid” that eat through everything else, including ethical, political views and everyday beliefs. The attempts to restrict the influence to just one area of human life, like religion, have so far been frustrated.¹⁹

To summarize, there is only two ways a defender of the received view can take.

Route 1: Religious T2 cognition is just *post hoc* rationalization.

Route 2: In all areas of human life T2 cognition is just *post hoc* rationalization.

The first route is blocked by the difficulty in restricting the damage to religion only. The second route is, of course, possible but few are willing to pay the prize, which is very steep. Furthermore, taking the high road leads to performative contradictions. If all T2 cognition is just *post hoc* rationalization, why should we think that there are superior forms of cognition in the first place and that we are not just replacing one set of biases with another set of biases, both of which are equally bad?

Summarizing the Problems Regarding the Use of DPAs in CSR

In my view, there are at least two closely-interrelated problems that have to do with how the nature of DPAs in CSR are understood. I will call the first *the restriction problem*, and the second *the epistemic problem*. The nature of each problem is outlined as follows.

The restriction problem concerns the mutual relations of the two types of reasoning. To put it simply, T1 and T2 are abstractions. Most of the time T1 and T2 function simultaneously, and they can and do affect each other. The current understanding among psychologists is that T1 and T2 are not totally separate but influence each other all the time.²⁰ T1 can learn when it should rely on T2 and T2 cognition can become part of T1 cognition. T1 and T2 are abstract descriptions of two information processing strategies of human cognition. However, it is very hard to move from the general level to the level of individuals, and say that, “your belief that p at t1 was caused by T1 alone”. Sometimes we may have more reasons to say something like this; sometimes we have no way of knowing.

Nevertheless, it is possible to argue thus: Religion is what you get when our cognitive functions miss their targets, that is to say, when those cognitive features that in normal context produce true beliefs are transferred to some other context, they start to produce false beliefs.²¹ Religion is simply the product of our cognitive

¹⁸ This question is widely discussed among contemporary philosophers. I cannot provide a satisfactory answer here but I merely state that I do not think that mere disagreement causes an obligation to revise one's beliefs. Yet there are cases when it is rational to revise one's beliefs in the face of disagreement, such as when one cannot give answer to the defeaters aimed at one's own view, or when one is challenged by one's immediate peers.

¹⁹ So far the best attempt to argue for the debunking of religious beliefs from CSR is Griffiths and Wilkins, “Evolutionary debunking arguments”. Yet even in their case, the problem lies in the demarcation of debunking power of the arguments; it is hard, or even impossible to restrict it to religion alone. For discussion, see Jong and Visala, “Evolutionary debunking arguments”. See also Murray and Goldberg, “Evolutionary Accounts of Religion.”

²⁰ Evans and Stanovich, “Dual Process Theories of Higher Cognition”, 227, 229–231; Stanovich, *Rationality and Reflective Mind*, 19–22, 30–33, 62.

²¹ Thus, e.g., McCauley, *Why Religion is Natural*, 157.

system gone haywire. But here we are faced with the problem of demarcation. Given the same presuppositions, what prevents us from saying that our beliefs about politics, ethics or everyday life are simply products of our cognitive system gone haywire?²² It seems that the restriction problem remains so far unsolved.

Secondly, even if we could say that, “your belief that *p* was caused by T1 (or T2)”, this as such does not have any relevance as to whether these beliefs are true or not. This is *the epistemic problem*, which consists of the following features. The problem with how humans reason is not that we have two systems of reasoning, the irrational and rational one, but the fact that sometimes they do not function well together. Both T1 and T2 can be either rational or irrational but this evaluation must be based on how they are employed in a given context. Nothing universal (in an epistemic sense) can be said about these systems as such. To quote Evans and Stanovich, “Perhaps the most persistent fallacy in the perception of dual-process theories is the idea that Type 1 processes (intuitive, heuristic) are responsible for all bad thinking and that Type 2 processes (reflective, analytic) necessarily lead to correct responses. [...]it is a fallacy to assume that Type 1 processing is invariably nonnormative and Type 2 processing invariably normative. In fact, Type 1 processing can lead to right answers and Type 2 processing to biases in some circumstances.”²³

Notably, there is a debate (known as the Rationality War) among the theorists about how much we can trust our T1 cognition.²⁴ If we ask Gerd Gigerenzer, one of the main theorists of DPA, he will say that T1 is mostly correct; it is actually very rare that T1 misleads us.²⁵ Thus, there is nothing wrong about T1 cognition and biases as such. We will only have problems, if we rely on T1 in the wrong context. However, the only way of finding out if we are in the wrong context, is to play the game of evidence – and this moves the focus of debate outside the field of cognitive science.

In fact, if there is a way of setting aside a sphere where T1 rules supreme, it can be done by cutting down the mental resources, time and energy because T1 is automatically activated when we are tired and in a hurry.²⁶ *But this does not overlap with religion, ethics, politics, or with any general mode of thinking.* To emphasize, religion is not something that “happens” only when one’s resources are cut down or when one is in a hurry. Religion, as a lived reality, exists in all kinds of cognitive environments.

Afterword

Let me conclude by addressing the worry I started with: Why might the forgetting of T2 cognition thwart the scientific study of religion? First, there are cases when CSR, or popularized versions of it, do not seem to pay attention to what DPAs actually amount to. This is especially apparent in the cases when DPAs are used as a part of debunking arguments. As such, DPAs, and CSR, as far as they employ the received view, do not have much to say about the epistemic status of particular beliefs.²⁷

Secondly, if our goal is to truly understand religions as they are manifested in our contemporary world, we should pay more attention to T2. Our religions are products of both T1 and T2 (as are all other similar spheres of life). Focusing on T1 will tell us something but it will never tell us the whole story. This needs to be borne in mind, or else we cannot but portray religions in a way that does not reflect reality.²⁸

²² Regarding the automatic nature of T1: it is well-known that also scientists resort to gut reactions when they are in a hurry and they make the same mistakes in reasoning that everyman does. Kelemen et al., “Professional Physical Scientists Display Tenacious Teleological Tendencies.” *Journal of Experimental Psychology: General*, Nov. 2013) Yet we do not see this invalidating their reasoning in scientific sphere. Again, why religion should be a special case?

²³ Evans and Stanovich, “Dual Process Theories of Higher Cognition”, 229.

²⁴ Samuels et al., “Ending the Rationality Wars: How to Make Disputes About Human Rationality Disappear”; Stanovich, *Rationality*, 10–16.

²⁵ Gigerenzer, “Bounded and Rational”; *Rational for mortals*.

²⁶ The tests that examine T1 cognition are especially designed so that the test subjects need to act with scarce resources or in an unnatural context. See e.g. McCauley, *Why Religion Is Natural*, 55–60.

²⁷ Jong et al, “Born Idolaters”, 244–266; Laidlaw, “A Well Disposed Anthropologist’s Problem with the Cognitive Science of Religion”, 211–246.

²⁸ I thank the audience of Nordic Society of Philosophy of Religion Meeting (Helsinki 2015), Aku Visala, Lluís Oviedo and anonymous reviewers for valuable comments and criticisms.

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